

State of California  
The Resources Agency  
Department of Water Resources  
Division of Planning and Local Assistance

# **MUNICIPAL WATER QUALITY INVESTIGATIONS PROGRAM Annual Report**



**October 1995 - December 1996**

**December 1997**



**Pete Wilson  
Governor  
State of California**

**Douglas P. Wheeler  
Secretary for Resources  
The Resources Agency**

**David N. Kennedy  
Director  
Department of Water Resources**

## **Chapter 1. Executive Summary**

### **Characterization of Dissolved Organic Carbon from Delta Island Soils**

This Study, evaluating the water quality of drainage in an agricultural field in the Sacramento-San Joaquin Delta, was conducted during the 1996-97 Municipal Water Quality Investigations Program Year. Water and soil samples were collected from a 40-acre field on Twitchell Island during different agricultural periods: leaching, irrigation, fallowing. The data are being evaluated and a report is being prepared by U.S. Geological Survey staff, cooperators in this Study.

### **Delta Alternatives Water Treatment and Costs Computer Modeling**

To predict water conditions with changes in the physical configuration of the Delta, two computer models were developed by the Department of Water Resources' Modeling Branch. These computer models are the Delta Trihalomethane Formation Potential model and the Delta Island Consumptive Use model.

A project to estimate the finished water quality and costs of treating Delta waters withdrawn from different Delta locations was requested by the MWQI Committee in 1994. Conceptually, this project will use the DWR's Delta THMFP and Delta Island Consumptive Use models to establish boundary conditions representing influent water quality to the U.S. Environmental Protection Agency model. The USEPA model will predict the effects of modifying Delta conditions on distribution system water quality. This application is intended to improve the ability to quantify costs and savings associated with Delta action alternatives, as related to the use of Delta waters for municipal purposes.

Through the Request for Qualifications process, Malcolm Pirnie, Inc., was selected as the most qualified firm to conduct this project. DOP's staff will work with Malcolm Pirnie, Inc., with oversight from MWQI Unit staff. Work on this project began on February 1, 1997, with a projected completion date of August 1997.

### **Treatment of Delta Island Drainage to Reduce Total Organic Carbon Loads**

Approximately 260 agricultural drains discharge into the Delta and contribute high TOC loadings because of the leaching of Delta peat soil. Higher TOC levels make it more difficult for water retailers to treat the water because it leads to higher Disinfection Byproduct concentrations. There is concern among water suppliers regarding the need to comply with Phase I of the Disinfectant/Disinfection Byproducts Rule and the Enhanced Surface Water Treatment Rule since the former may require lesser levels of disinfection (to minimize THM production) and the latter may require greater levels of disinfection (to control pathogenic organisms).



# Sequoia Analytical

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Hydrofocus, Inc.	Project: N/A	Sampled: 8/23/00
P.O. Box 2401	Project Number: N/A	Received: 8/29/00
Davis, CA 95617	Project Manager: Steve Deverel	Reported: 9/13/00

## Total Metals by EPA 200 Series Methods Sequoia Analytical - Sacramento

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<u>SJR-F</u>				<u>S008381-01</u>			<u>Water</u>	
Calcium	0090044	9/6/00	9/7/00	EPA 200.7	0.200	11.7	mg/l	
Magnesium	"	"	"	EPA 200.7	0.0500	8.08	"	
Potassium	"	"	"	EPA 200.7	0.500	1.87	"	
Sodium	"	"	"	EPA 200.7	0.200	25.5	"	

